

REMARKS

An Office Action was mailed November 26, 2008. This response is timely. Any fee due with this paper, including any necessary extension fees, may be charged on Deposit Account 50-1290. No new matter has been added.

Summary

Claims 1-18 are pending, of which claim 1 is the sole independent claim.

By the foregoing, all claims are amended. New claims 19 and 20 are added. No new matter has been added.

Rejections under 35 U.S.C. §112

Claims 4, 5, and 18 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite because they are dependent directly (claims 4, 5) or indirectly (claim 18) from a now cancelled claim. The claims are amended to correct the error. No new matter has been added.

Accordingly, the Examiner is respectfully requested to withdraw the rejections.

Rejections under 35 U.S.C. §103(a)

Independent claim 1 and dependent claims 4, and 6-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,391,132 to Egami in view of Andrews. Claims 3, 11, and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Egami in view of Andrews and U.S. Patent Publication 2002/0096155 to Thimmesch et al. Claim 5 and dependent claim 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Egami in view of Andrews. Dependent claims 13 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Egami in view of Andrews and U.S. Patent No. 5,445,782 to Sadr. Claims 15-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Egami in view of Andrews and U.S. Patent No. 6,152,117 to Prust.

The rejections are respectfully traversed for the reasons given below. None of the cited art alone or in the combination suggested teaches, discloses, or suggests the claimed invention.

1. The cited art does not teach, disclose, or suggest a control circuit having a power switch wherein the power switch controls at least at least one resistance strip.

With respect to independent claim 1, Egami is cited for teaching all limitations of the claimed invention except for a power control circuit that comprises a control logic to which a single temperature sensor is controlled and at least one power switch which controls the heating element. Andrews is cited to fill the gap.

Specifically, Andrews is alleged to teach *'a control logic 12 connected to a sensor 20 and at least one power switch which controls the heating elements 26 and 28.'* However, as is evident from 12:14 et al. Andrews teaches a controller that uses the intake manifold temperature sensor (IMATS) 20 in algorithm. For example, as disclosed in Table 1 and 12:28 et al., if the air temperature is less the zero degrees F, the heaters are energized. If the condition persists, the user is asked to wait so that the gases may be sufficiently heated. 12:57-60.

In contrast, the presently claimed invention is directed to avoiding excess temperatures that may destroy a plastic manifold into which the presently claimed module's heating element may be installed. Thus, rather than controlling the heating element via the control unit in order to cut off excessive heating, Andrews teaches that the control unit via an algorithm provides the reverse, heating the intake gases to make the engine even hotter. In fact to do so, Andrews requires a complex relay switching means, which is simply not necessary in the presently claimed invention.

Egami fails to fill the gap or permit one skilled in the art to adapt the Andrews to a different outcome to anticipate or render the presently claimed invention obvious. Accordingly, the Examiner is respectfully requested to withdraw the rejection.

2. The cited art does not teach, disclose, or suggest that the heating element comprises at least one resistance ribbon strip. Egami is alleged to teach such a heater element at 2:36-46. Rather

than being a ribbon and having the inherent advantages of such, Egami only teaches a platinum wire, which is illustrated in Figs. 2 and 3. This wire as illustrated in contained in a frame and is not a ribbon. Andrews fails to fill the gap or permit one skilled in the art to adapt the reference to a different outcome.

Accordingly, the Examiner is respectfully requested to withdraw the rejection.

3. None of the cited art teaches a heating module in combination with a plastic manifold.

Neither Egami nor Andrews has recognized the need to avoid having temperatures beyond excess in order to avoid destroying a plastic manifold. This risk is minimized by implementing a temperature control as claimed in the present invention. Advantageously, this permits the use of more economical plastic manifolds rather than metal manifolds.

Neither Egami nor Andres teach a module in combination with a plastic manifold. Accordingly, the Examiner is respectfully requested to withdraw the rejections.

All dependent claims are allowable for at least the same reasons as the independent claim from which they depend.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper, including any necessary extension fees, may be charged on Deposit Account 50-1290. A refund may be made to Deposit Account 50-1290.

Respectfully submitted,

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